

**WAC 296-62-07515, Control of chemical agents.**

Chemical agents shall be controlled in such a manner that the workers exposure shall not exceed the applicable limits in WAC 296-62-075 through 296-62-07515.

**TABLE 1: LIMITS FOR AIR CONTAMINANTS**  
**Permissible Exposure Limits (PEL)**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Abate, see Temephos								
Acetaldehyde	75-07-0	100	180	150	270			
Acetic acid	64-19-7	10	25					
Acetic anhydride	108-24-7					5.0	20	
Acetone	67-64-1	750	1800	1000	2400			
Acetonitrile	75-05-8	40	70	60	105			
2-Acetylaminofluorene (see WAC 296-62-073)	53-96-3							
Acetylene	74-86-2	Simple	Asphyxiant					
Acetylene dichloride(see 1,2-Dichloroethylene)								
Acetylene tetrabromide	79-27-6	1.0	14					
Acetylsalicylic acid (Aspirin)	50-78-2		5.0					
Acrolein	107-02-8	0.1	0.25	0.3	0.8			
Acrylamide	79-06-1		0.03					X
Acrylic acid	79-10-7	10	30					X
Acrylonitrile (see WAC 296-62-07336 (3))	107-13-1							
Aldrin	309-00-2		0.25					X
Allyl alcohol	107-18-6	2.0	5.0	4.0	10			X
Allyl Chloride	107-05-1	1.0	3.0	2.0	6.0			
Allyl glycidyl ether (AGE)	106-92-3	5.0	22	10	44			
Allyl propyl disulfide	2179-59-1	2.0	12	3.0	18			
alpha-Alumina (see Aluminum oxide) Total dust Respirable fraction	1344-28-1		10 5.0 <sup>k</sup>					
Aluminum, metal and oxide (as Al) Total dust Respirable fraction pyro powders welding fumes <sup>f</sup> soluble salts alkyls (NOC)	7429-90-5		10 5.0 <sup>k</sup> 5.0 5.0 2.0 2.0					
Alundum (see Aluminum oxide)								
4-Aminodiphenyl (see WAC 296-62-073)	92-67-1							

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2-Aminoethanol (see Ethanolamine)								
2-Aminopyridine	504-29-0	0.5	2.0					
Amitrole	61-82-5		0.2					
Ammonia	7664-41-7	25	18	35	27			
Ammonium chloride, fume	12125-02-9		10		20			
Ammonium sulfamate (Ammate) Total dust Respirable fraction	7773-06-0			10 5.0 <sup>k</sup>				
n-Amyl acetate	628-63-7	100	525					
sec-Amyl acetate	626-38-0	125	650					
Aniline and homologues	62-53-3	2.0	8.0					X
Anisidine (o, p-isomers)	29191-52-4	0.1	0.5					X
Antimony and Compounds (as Sb)	7440-36-0		0.5					
ANTU (alpha Naphthyl thiourea)	86-88-4		0.3					
Argon	7440-37-1	Simple	Asphyxiant					
Arsenic, Organic compounds (as As)	7440-38-2		0.2					
Arsenic, Inorganic compounds (as As) (when use is covered by WAC 296-62-07347)	7440-38-2		0.01					
Arsenic, Inorganic compounds (as As) (when use is not covered by WAC 296-62-07347)	7440-38-2		0.2					
Arsine	7784-42-1	0.05	0.2					
Asbestos (see WAC 296-62-077 through 296-62-07753)								
Asphalt (Petroleum fumes)	8052-42-4		5.0					
Atrazine	1912-24-9		5.0					
Azinphos methyl	86-50-0		0.2					X
Barium, soluble compounds (as Ba)	7440-39-3		0.5					
Barium Sulfate Total dust Respirable fraction	7727-43-7			10.0 5.0 <sup>k</sup>				
Benomyl Total dust Respirable fraction	17804-35-2	0.8	10 5.0 <sup>k</sup>					
Benzene (see WAC 296-62-07523) <sup>d</sup>	71-43-2	1.0		5.0				

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Benzidine (see WAC 296-62-073)	92-87-5							
p-Benzozquinone (see Quinone)								
Benzo(a) pyrene (see Coal tar pitch volatiles)								
Benzoyl peroxide	94-36-0		5.0					
Benzyl chloride	100-44-7	1.0	5.0					
Beryllium and beryllium compounds (as Be)	7440-41-7		0.002		0.005 (30 min)		0.025	
Biphenyl (see Diphenyl)								
Bismuth telluride, Undoped Total dust Respirable fraction	1304-82-1		10 5.0 <sup>k</sup>					
Bismuth telluride, Se-doped			5.0					
Borates, tetra, sodium salts Anhydrous	1330-43-4		1.0					
Decahydrate	1303-96-4		5.0					
Pentahydrate	12179-04-3		1.0					
Boron oxide Total dust	1303-86-2		10					
Boron tribromide	10294-33-4					1.0	10	
Boron trifluoride	7637-07-2					1.0	3.0	
Bromacil	314-40-9	1.0	10					
Bromine	7726-95-6	0.1	0.7	0.3	2.0			
Bromine pentafluoride	7789-30-2	0.1	0.7					
Bromochloromethane (see Chlorobromomethane)								
Bromoform	15-25-2	0.5	5.0					X
Butadiene (1,3-butadiene)	106-99-0	1	2.2	5				
Butane	106-97-8	800	1,900					
Butanethiol (see Butyl mercaptan)								
2-Butanone (Methyl ethyl ketone)	78-93-3	200	590	300	885			
2-Butoxy ethanol (Butyl Cellosolve)	111-76-2	25	120					X
n-Butyl acetate	123-86-4	150	710	200	950			
sec-Butyl acetate	105-46-4	200	950					
tert-Butyl acetate	540-88-5	200	950					
Butyl acrylate	141-32-2	10	55					
n-Butyl alcohol	71-36-3					50	150	X
sec-Butyl alcohol	78-92-2	100	305					
tert-Butyl alcohol	75-65-0	100	300	150	450			
Butylamine	109-73-9					5.0	15	X

**WAC 296-62-07515 cont.**

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		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Tert-Butyl chromate (see CrO <sub>3</sub> )	1189-85-1						0.1	X
n-Butyl glycidyl ether (BGE)	2426-08-6	25	135					
n-Butyl lactate	138-22-7	5.0	25					
Butyl mercaptan	109-79-5	0.5	1.5					
o-sec-Butylphenol	89-72-5	5.0	30					X
p-tert-Butyl-toluene	98-51-1	10	60	20	120			
Cadmium oxide fume (as Cd) (see WAC 296-62-074)	1306-19-0							
Cadmium dust and salts (as Cd) (see WAC 296-62-074)	7440-43-9							
Calcium arsenate (see WAC 296-62-07347)								
Calcium carbonate	1317-65-3			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Calcium cyanamide	156-62-7		0.5					
Calcium hydroxide	1305-62-0		5.0					
Calcium oxide	1305-78-8		2.0					
Calcium silicate	1344-95-2			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Calcium sulfate	7778-18-9			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Camphor (synthetic)	76-22-2		2.0					
Caprolactam	105-60-2			1.0		3.0		
Dust				20		40		
Vapor		5.0						
Captafol (Difolatan)	2425-06-1		0.1					X
Captan	133-06-2		5.0					
Carbaryl (Sevin)	63-25-2		5.0					
Carbofuran (Furadon)	1563-66-2		0.1					
Carbon black	1333-86-4		3.5					
Carbon dioxide	124-38-9	5,000	9,000	30,000	54,000			
Carbon disulfide	75-15-0	4.0	12	12	36			X
Carbon monoxide	630-08-0	35	40			200 <sup>j</sup>	229 <sup>j</sup>	
Carbon tetrabromide	558-13-4	0.1	1.4	0.3	4.0			
Carbon tetrachloride	56-23-5	2.0	12.6					X
Carbonyl chloride (see Phosgene)								
Carbonyl fluoride	353-50-4	2.0	5.0	5.0	15			

**WAC 296-62-07515 cont.**

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Catechol (Pyrocatechol)	120-80-9	5.0	20					X
Cellulose (paper fiber) Total dust Respirable fraction	9004-34-6		10 5.0 <sup>k</sup>					
Cesium hydroxide	21351-79-1		2.0					
Chlordane	57-74-9		0.5					X
Chlorinated camphene	8001-35-2		0.5		1.0			X
Chlorinated diphenyl oxide	55720-99-5		0.5					
Chlorine	7782-50-5	0.5	1.5	1.0	3.0	1.0	3.0	
Chlorine dioxide	10049-04-4	0.1	0.3	0.3	0.9			
Chlorine trifluoride	7790-91-2					0.1	0.4	
Chloroacetaldehyde	107-20-0					1.0	3.0	
<i>α</i> -Chloroacetophenone (Phenacyl chloride)	532-21-4	0.05	0.3					
Chloroacetyl chloride	79-04-9	0.05	0.2					
Chlorobenzene (Monochlorobenzene)	108-90-7	75	350					
O-Chlorobenzylidene malononitrile (OCBM)	2698-41-1					0.05	0.4	X
Chlorobromomethane	74-97-5	200	1,050					
2-Chloro-1, 3-butadiene (see beta-Chloroprene)								
Chlorodifluoromethane	75-45-6	1,000	3,500					
Chlorodiphenyl (42% Chlorine) (PCB)	53469-21-9		1.0					X
Chlorodiphenyl (54% Chlorine) (PCB)	11097-69-1		0.5					X
1-Chloro-2, 3-epoxypropane (see Epichlorhydrin)								
2-Chloroethanol (see Ethylene chlorohydrin)								
Chloroethylene (see vinyl chloride)								
Chloroform (Trichloromethane)	67-66-3	2.0	9.78					
1-Chloro-1-nitropropane	600-25-9	2.0	10					
bis-Chloromethyl ether (see WAC 296-62-073)	542-88-1							
Chloromethyl methyl ether (see Methyl carbomethyl ether)	107-30-2							
Chloropentafluoroethane	76-15-3	1,000	6,320					
Chloropicrin	76-06-2	0.1	0.7					
beta-Chloroprene	126-99-8	10	35					X
<i>o</i> -Chlorostyrene	2039-87-4	50	285	75	428			

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o-Chlorotoluene	95-49-8	50	250					
2-Chloro-6-trichloromethyl pyridine (see Nitrapyrin)	1929-82-4			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Chlorpyrifos	2921-88-2		0.2					X
Chromic acid and chromates (as CrO <sub>3</sub> )	Varies With Compound						0.1	
Chromium, sol, chromic chromous salts (as Cr)	7440-47-3		0.5					
Chromium (VI) compounds (as Cr)			0.05					
Chromium Metal and insoluble salts	7440-47-3		0.5					
Chromyl chloride	14977-61-8	0.025	0.15					
Chrysene (see Coal tar pitch volatiles)								
Clopidol	2971-90-6			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Coal dust (less than 5% SiO <sub>2</sub> )			2.0 <sup>g</sup>					
Respirable fraction								
Coal dust (greater than or equal to 5% SiO <sub>2</sub> )			0.1 <sup>g</sup>					
Respirable fraction								
Coal tar pitch volatiles (benzene soluble fraction anthracene, BaP, phenanthrene, acridine, chrysene, pyrene)	65996-93-2		0.2					
Cobalt, metal fume & dust (as Co)	7440-48-4		0.05					
Cobalt carbonyl (as Co)	10210-68-1		0.1					
Cobalt hydrocarbonyl (as Co)	16842-03-8		0.1					
Coke oven emissions (see WAC 296-62-200)								
Copper fume (as Cu)	7440-50-8		0.1					
Dusts and mists (as Cu)			1.0					
Cotton dust (raw) <sup>e</sup>			1.0					
Corundum (see Aluminum oxide)								
Crag herbicide (Sesone)	136-78-7			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Cresol (all isomers)	1319-77-3	5.0	22					X

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Crotonaldehyde	123-73-9; 4170-30-3	2.0	6.0					
Crufomate	299-86-5		5.0					
Cumene	98-82-8	50	245					X
Cyanamide	420-04-2		2.0					
Cyanide (as CN)	Varies With Compound		5.0					X
Cyanogen	460-19-5	10	20					
Cyanogen chloride	506-77-4					0.3	0.6	
Cyclohexane	110-82-7	300	1,050					
Cyclohexanol	108-93-0	50	200					X
Cyclohexanone	108-94-1	25	100					X
Cyclohexene	110-83-8	300	1,015					
Cyclohexylamine	108-91-8	10	40					
Cyclonite (see RDX)	121-82-4		1.5					X
Cyclopentadiene	542-92-7	75	200					
Cyclopentane	287-92-3	600	1,720					
Cyhexatin	13121-70-5		5.0					
2,4-D (Dichlorophenoxy-acetic acid)	94-75-7		10					
DDT (Dichlorodiphenyltrichloroethane)	50-29-3		1.0					X
DDVP, Dichlorvos	62-73-7	0.1	1.0					X
Decaborane	17702-41-9	0.05	0.3	0.15	0.9			X
Demeton	8065-48-3	0.01	0.1					X
Diacetone alcohol (4-hydroxy-4-methyl-2-pantanone)	123-42-2	50	240					
1,2-Diaminoethane (see Ethylenediamine)								
Diazinon	333-41-5		0.1					X
Diazomethane	334-88-3	0.2	0.4					
Diborane	19287-45-7	0.1	0.1					
Dibrom (see Naled)								
1,2-Dibromo-3-chloropropane (DBCP) (see WAC 296-62-07342)	96-12-8							
2-N-Dibutylamino ethanol	102-81-8	2.0	14					X
Dibutyl phosphate	107-66-4	1.0	5.0	2.0	10			
Dibutyl phthalate	84-74-2		5.0					
Dichloroacetylene	7572-29-4					0.1	0.4	
o-Dichlorobenzene	95-50-1					50	300	
p-Dichlorobenzene	106-46-7	75	450	110	675			

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3,3'-Dichlorobenzidine (see WAC 296-62-073)	91-94-1							
Dichlorodifluoromethane	75-71-8	1,000	4,950					
1,3-Dichloro-5,5-dimethyl hydantoin	118-52-5		0.2		0.4			
1,1-Dichloroethane	75-34-3	100	400					
1,2-Dichloroethane (see Ethylene dichloride)								
1,2-Dichloroethylene	540-59-0	200	790					
1,1-Dichloroethylene (see Vinylidene chloride)								
Dichloroethyl ether	111-44-4	5.0	30	10	60			X
Dichlorofluoromethane	75-43-4	10	40					
Dichloromethane (see Methylene chloride)								
1,1-Dichloro-1-nitroethane	594-72-9	2.0	10.	10.				
1,2-Dichloropropane (see Propylene dichloride)								
Dichloropropene	542-75-6	1.0	5.0					X
2,2-Dichloropropionic acid	75-99-0	1.0	6.0					
Dichlorotetrafluoroethane	76-14-2	1,000	7,000					
Dichlorvos (DDVP)	62-73-7	0.1	1.0					X
Dicrotophos	141-66-2		0.25					X
Dicyclopentadiene	77-73-6	5.0	30					
Dicyclopentadienyl iron Total dust Respirable fraction	102-54-5			10 5.0 <sup>k</sup>				
Dieldrin	60-57-1		0.25					X
Diethanolamine	111-42-2	3.0	15					
Diethylamine	109-89-7	10	30	25	75			
2-Diethylaminoethanol	100-37-8	10	50					X
Diethylene triamine	111-40-0	1.0	4.0					X
Diethyl ether (see Ethyl ether)								
Diethyl ketone	96-22-0	200	705					
Diethyl phthalate	84-66-2		5.0					
Difluorodibromomethane	75-61-6	100	860					
Diglycidyl ether (DGE)	2238-07-5	0.1	0.5					
Dihydroxybenzene (see Hydroquinone)								
Diisobutyl ketone	108-83-8	25	150					
Diisopropylamine	108-18-9	5.0	20					X
Dimethoxymethane (see Methylal)								

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Dimethyl acetamide	127-19-5	10	35					X
Dimethylamine	124-40-3	10	18					
4-Dimethylaminoazo benzene (see WAC 296-62-073)	60-11-7							
Dimethylaminobenzene (see Xylylene)								
Dimethylaniline (N, N-Dimethylaniline)	121-69-7	5.0	25	10	50			X
Dimethylbenzene (see Xylene)								
Dimethyl-1, 2-dibromo-2, 2-dichloroethyl phosphate (see Naled)	300-76-5		3.0					X
Dimethylformamide	68-12-2	10	30					X
2, 6-Dimethylheptanone (see Diisobutyl ketone)								
1, 1-Dimethylhydrazine	57-14-7	0.5	1.0					X
Dimethyl phthalate	131-11-3		5.0					
Dimethyl sulfate	77-78-1	0.1	0.5					X
Dinitolmide (3, 5-Dinitro-o-toluamide)	148-01-6		5.0					
Dinitrobenzene (all isomers) (alpha) (meta) (para)	528-29-0; 99-65-0; 100-25-4	0.15	1.0					X
Dinitro-o-cresol	534-52-1		0.2					X
Dinitrotoluene	25321-14-6		1.5					X
Dioxane (Diethylene dioxide)	123-91-1	25	90					X
Dioxathion	78-34-2		0.2					X
Diphenyl (Biphenyl)	92-52-4	0.2	1.0					
Diphenylamine	122-39-4		10					
Diphenylmethane diisocyanate (see Methylene bisphenyl isocyanate (MDI))								
Dipropylene glycol methyl ether	34590-94-8	100	600	150	900			X
Dipropyl ketone	123-19-3	50	235					
Diquat	85-00-7		0.5					
Di-sec, Octyl phthalate (Di-2-ethylhexylphthalate)	117-81-7		5.0		10			
Disulfiram	97-77-8		2.0					
Disulfoton	298-04-4		0.1					X
2, 6-Di-tert-butyl-p-cresol	128-37-0		10					

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Diuron	330-54-1		10					
Divinyl benzene	1321-74-0	10	50					
Emery Total dust Respirable fraction	12415-34-8		10 5.0 <sup>k</sup>					
Endosulfan (Thiodan)								X
Endrin								X
Epichlorhydrin	106-89-8	2.0	8.0					X
EPN	2104-64-5		0.5					X
1, 2-Epoxypropane (see Propylene oxide)								
2, 3-Epoxy-1-propanol (see Glycidol)								
Ethane		Simple	Asphyxiant					
Ethanethiol (see Ethyl mercaptan)								
Ethanolamine	141-43-5	3.0	8.0	6.0	15			
Ethion	563-12-2		0.4					X
2-Ethoxyethanol	110-80-5	5.0	19					X
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9	5.0	27					X
Ethyl acetate	141-78-6	400	1,400					
Ethyl acrylate	140-88-5	5.0	20	25	100			X
Ethyl alcohol (ethanol)	64-17-5	1,000	1,900					
Ethylamine	75-04-07	10	18					
Ethyl amyl ketone (5-Methyl-3-heptanone)	541-85-5	25	130					
Ethyl benzene	100-41-4	100	435	125	545			
Ethyl bromide	74-96-4	200	890	250	1,110			
Ethyl butyl ketone (3-Heptanone)	106-35-4	50	230					
Ethyl chloride	75-00-3	1,000	2,600					
Ethylene	74-85-1	Simple	Asphyxiant					
Ethylene chlorohydrin	107-07-3					1.0	3.0	X
Ethylenediamine	107-15-3	10	25					X
Ethylene dibromide	106-93-4	0.1		0.5				
Ethylene dichloride	107-06-2	1.0	4.0	2.0	8.0			
Ethylene glycol	107-21-1					50	125	
Ethylene glycol dinitrate	628-96-6				0.1			X
Ethylene glycol monomethyl ether acetate (Methyl cellosolve acetate)		5.0	24					X

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Ethyleneimine (see WAC 296-62-073)	151-56-4							X
Ethylene oxide (see WAC 296-62-07359)	75-21-8	1.0	2.0					
Ethyl ether	60-29-7	400	1,200	500	1,500			
Ethyl formate	109-94-4	100	300					
Ethyldine chloride (see 1, 1-Dichloroethane)								
Ethyldene norbornene	16219-75-3					5.0	25	
Ethyl mercaptan	75-08-1	0.5	1.0					
n-Ethylmorpholine	100-74-3	5.0	23					X
Ethyl sec-amyl ketone (5-methyl-3-heptanone)		25	130					
Ethyl silicate	78-10-4	10	85					
Fenamiphos	22224-92-6		0.1					X
Fensulfothion (Dasanit)	115-90-2		0.1					
Fenthion	55-38-9		0.2					X
Ferbam Total dust	14484-64-1		10					
Ferrovanadium dust	12604-58-9		1.0		3.0			
Fluorides (as F) With Compound	Varies With Compound		2.5					
Fluorine	7782-41-4	0.1	0.2					
Fluorotrichloromethane (see Trichlorofluoro methane)	75-69-4					1,000	5,600	
Fonofos	944-22-9		0.1					X
Formaldehyde (see WAC 296-62-07540)	50-00-0	0.75		2.0				
Formamide	75-12-7	20	30	30	45			
Formic acid	64-18-6	5.0	9.0					
Furfural	98-01-1	2.0	8.0					X
Furfuryl alcohol	98-00-0	10	40	15	60			X
Gasoline	8006-61-9	300	900	500	1,500			
Germanium tetrahydride	7782-65-2	0.2	0.6					
Glass, fibrous or dust			10					
Glutaraldehyde	111-30-8					0.2	0.8	
Glycerin mist Total dust Respirable fraction	56-81-5			10 5.0 <sup>k</sup>				
Glycidol (2, 3-Epoxy-1-propanol)	556-52-5	25	75					

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Glycol monoethyl ether (see 2-Ethoxyethanol)								
Grain dust (oat, wheat, barley)			10					
Graphite, natural Respirable dust	7782-42-5			2.5 <sup>k</sup>				
Graphite, Synthetic Total dust Respirable fraction				10 5.0 <sup>k</sup>				
Guthion (see Azinphosmethyl)								
Gypsum Total dust Respirable fraction	13397-24-5			10 5.0 <sup>k</sup>				
Hafnium	7440-58-6		0.5					
Helium		Simple	Asphyxiant					
Heptachlor	76-44-8		0.5					X
Heptane (n-heptane)	142-82-5	400	1,600	500	2,000			
2-Heptanone (see Methyl n-amyl ketone)								
3-Heptanone (see Ethyl butyl ketone)								
Hexachlorobutadiene	87-68-3	0.02	0.24					X
Hexachlorocyclopentadiene	77-47-4	0.01	0.1					
Hexachloroethane	67-72-1	1.0	10					X
Hexachloronaphthalene	1335-87-1		0.2					X
Hexafluoroacetone	684-16-2	0.1	0.7					X
Hexane n-hexane other Isomers	110-54-3 Varies With Compound	50 500	180 1,800	1,000	3,600			
2-Hexanone (Methyl-n-butyl ketone)	591-78-6	5.0	20					
Hexone (Methyl isobutyl ketone)	108-10-1	50	205	75	300			
sec-Hexyl acetate	108-84-9	50	300					
Hexylene Glycol	107-41-5					25	125	
Hydrazine	302-01-2	0.1	0.1					X
Hydrogen		Simple	Asphyxiant					
Hydrogenated terphenyls	61788-32-7	0.5	5.0					
Hydrogen bromide	10035-10-6					3.0	10	
Hydrogen chloride	7647-01-0					5.0	7.0	
Hydrogen cyanide	74-90-8			4.7	5.0			X

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Hydrogen fluoride	7664-39-3					3.0	2.5	
Hydrogen peroxide	7722-84-1	1.0	1.4					
Hydrogen selenide (as Se)	7783-07-5	0.05	0.2					
Hydrogen Sulfide	7783-06-4	10	14	15	21			
Hydroquinone	123-31-9		2.0					
4-Hydroxy-4-methyl-2-pentanone (see Diacetone alcohol)								
2-Hydroxypropyl acrylate	99-61-1	0.5	3.0					X
Indene	95-13-6	10	45					
Indium and compounds (as In)	7440-74-6		0.1					
Iodine	7553-56-2					0.1	1.0	
Iodoform	75-47-8	0.6	10					
Iron oxide dust and fume (as Fe) Total particulate	1309-37-1			5.0				
Iron pentacarbonyl (as Fe)	13463-40-6	0.1	0.8	0.2	1.6			
Iron salts, soluble (as Fe)	Varies With Compound		1.0					
Isoamyl acetate	123-92-2	100	525					
Isoamyl alcohol (primary and secondary)	123-51-3	100	360	125	450			
Isobutyl acetate	110-19-0	150	700					
Isobutyl alcohol	78-83-1	50	150					
Isooctyl alcohol	26952-21-6	50	270					X
Isophorone	78-59-1	4.0	23			5.0	25	
Isophorone diisocyanate	4098-71-9	0.005	0.045	0.02				X
Isopropoxyethanol	109-59-1	25	105					
Isopropyl acetate	108-21-4	250	950	310	1,185			
Isopropyl alcohol	67-63-0	400	980	500	1,225			
Isopropylamine	75-31-0	5.0	12	10	24			
N-Isopropylaniline	768-52-5	2.0	10					X
Isopropyl ether	108-20-3	250	1,050					
Isopropyl glycidyl ether (IGE)	4016-14-2	50	240	75	360			
Kaolin Total dust Respirable fraction			10 5.0 <sup>k</sup>					
Ketene	463-51-4	0.5	0.9	1.5	3.0			
Lead inorganic (as Pb) (see WAC 296-62-07521)	7439-92-1		0.05					

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA ppm <sup>a</sup>	TWA mg/m <sup>3</sup> <sup>b</sup>	STEL <sup>c</sup> ppm <sup>a</sup>	STEL <sup>c</sup> mg/m <sup>3</sup> <sup>b</sup>	CEILING ppm <sup>a</sup>	CEILING mg/m <sup>3</sup> <sup>b</sup>	Skin Designation
Lead arsenate (see WAC 296-62-07347)	3687-31-8		0.05					
Lead chromate	7758-97-6		0.05					
Limestone Total dust Respirable fraction	1317-65-3			10 5.0 <sup>k</sup>				
Lindane	58-89-9		0.5					X
Lithium hydride	7580-67-8		0.025					
L.P.G. (liquified petroleum gas)	68476-85-7	1,000	1,800					
Magnesite Total dust Respirable fraction	546-93-0			10 5.0 <sup>k</sup>				
Magnesium oxide fume Total particulate	1309-48-4			10				
Malathion Total dust	121-75-5			10				X
Maleic anhydride	108-31-6	0.25	1.0					
Manganese and compound (as Mn)	7439-96-5						5.0	
Manganese tetroxide and fume (as Mn)	7439-96-5		1.0		3.0			
Manganese cyclopentadienyl tricarbonyl (as Mn)	12079-65-1		0.1					X
Manganese tetroxide (as Mn)	1317-35-7		1.0					
Marble Total dust Respirable fraction	1317-65-3			10 5.0 <sup>k</sup>				
Mercury (aryl and inorganic) (as Hg)	7439-97-6						0.1	X
Mercury (organo-alkyl compounds) (as Hg)	7439-97-6		0.01		0.03			X
Mercury (vapor) (as Hg)	7439-97-6		0.05					X
Mesityl oxide	141-79-7	15	60	25	100			
Methacrylic acid	79-41-4	20	70					X
Methane		Simple	Asphyxiant					
Methanethiol (see Methyl mercaptan)								
Methomyl (lannate)	16752-77-5		2.5					
Methoxychlor Total dust	72-43-5			10				
2-Methoxyethanol (Methyl cellosolve)	109-86-4	5.0	16					X
4-Methoxyphenol	150-76-5		5.0					

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA ppm <sup>a</sup>	TWA mg/m <sup>3</sup> <sup>b</sup>	STEL <sup>c</sup> ppm <sup>a</sup>	STEL <sup>c</sup> mg/m <sup>3</sup> <sup>b</sup>	CEILING ppm <sup>a</sup>	CEILING mg/m <sup>3</sup> <sup>b</sup>	Skin Designation
Methyl acetate	79-20-9	200	610	250	760			
Methyl acetylene (propyne)	74-99-7	1,000	1,650					
Methyl acetylene-propadiene mixture (MAPP)		1,000	1,800	1,250	2,250			
Methyl acrylate	96-33-3	10	35					X
Methylacrylonitrile	126-98-7	1.0	3.0					X
Methylal (Dimethoxy-methane)	109-87-5	1,000	3,100					
Methyl alcohol (methanol)	67-56-1	200	260	250	325			X
Methylamine	74-89-5	10	12					
Methyl amyl alcohol (see Methyl isobutyl carbinol)								
Methyl n-amyl ketone (2-Heptanone)	110-43-0	50	235					
N-Methyl aniline (see Monomethyl aniline)								
Methyl bromide	74-83-9	5.0	20					X
Methyl butyl ketone (see 2-Hexanone)								
Methyl cellosolve (see 2-Methoxyethanol)	109-86-4	5.0	16					X
Methyl cellosolve acetate (2-Methoxyethyl acetate)	110-49-6	5.0	24					X
Methyl chloride	74-87-3	50	105	100	210			
Methyl chloroform (1,1,1-trichlorethane)	71-55-6	350	1,900	450	2,450			
Methyl chloromethyl ether (see WAC 296-62-073)	107-30-2							
Methyl 2-cyanoacrylate	137-05-3	2.0	8.0	4.0	16			
Methylcyclohexane	108-87-2	400	1,600					
Methylcyclohexanol	25639-42-3	50	235					
Methylcyclohexanone	583-60-8	50	230	75	345			X
Methylcyclopentadienyl manganese tricarbonyl (as Mn)	12108-13-3		0.2					X
Methyl demeton	8022-00-2		0.5					X
Methylene bisphenyl isocyanate (MDI)	101-68-8					0.02	0.2	
4, 4'-Methylene bis (2-chloro-aniline) (MBOCA) (see WAC 296-62-073)	101-14-4	0.02	0.22					X
Methylene bis (4-cyclohexylisocyanate)	5124-30-1					0.01	0.11	
Methylene chloride (see WAC 296-62-07470)	75-09-2	25		125				
4, 4-Methylene dianiline	101-77-9	0.1	0.8					X

**WAC 296-62-07515 cont.**

Substance	CAS <sup>b</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Methyl ethyl ketone (MEK) (see 2-Butanone)	78-93-3							
Methyl ethyl ketone peroxide (MEKP)	1338-23-4					0.2	1.5	
Methyl formate	107-31-3	100	250	150	375			
5-Methyl-3-heptanone (see Ethyl amyl ketone)								
Methyl hydrazine (see Monomethyl hydrazine)	60-34-4					0.2	0.35	X
Methyl iodide	74-88-4	2.0	10					X
Methyl isoamyl ketone	110-12-3	50	240					
Methyl isobutyl carbinol	108-11-2	25	100	40	165			X
Methyl isobutyl ketone (see Hexone)								
Methyl isocyanate	624-83-9	0.02	0.05					X
Methyl isopropyl ketone	563-80-4	200	705					
Methyl mercaptan	74-93-1	0.5	1.0					
Methyl methacrylate	80-62-6	100	410					
Methyl parathion	298-00-0		0.2					X
Methyl propyl ketone (see 2-Pentanone)								
Methyl silicate	684-84-5	1.0	6.0					
alpha-Methyl styrene	98-83-9	50	240	100	485			
Mevinphos (see Phosdrin)								
Metribuzin	21087-64-9		5.0					
Mica (see Silicates)								
Molybdenum (as Mo)	7439-98-7							
Soluble compounds				5.0				
Insoluble compounds								
Total dust				10				
Monocrotophos (Azodrin)	6923-22-4		0.25					
Monomethyl aniline	100-61-8	0.5	2.0					X
Monomethyl hydrazine						0.2	0.35	
Morpholine	110-91-8	20	70	30	105			X
Naled	300-76-5		3.0					X
Naphtha (Coal tar)	8030-30-6	100	400					X
Naphthalene	91-20-3	10	50	15	75			
alpha-Naphthylamine (see WAC 296-62-073)	134-32-7							
beta-Naphthylamine (see WAC 296-62-073)	91-59-8							
Neon	7440-01-9	Simple	Asphyxiant					
Nickel carbonyl (as Ni)	13463-39-3	0.001	0.007					

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Nickel (as Ni) Metal and insoluble compounds Soluble compounds	7440-02-0		1.0 0.1					
Nicotine	54-11-5		0.5					X
Nitrapyrin (see 2-Chloro-6 trichloromethyl pyridine) Total dust Respirable fraction	1929-82-4			10 5.0 <sup>k</sup>				
Nitric acid	7697-37-2	2.0	5.0	4.0	10			
Nitric oxide	10102-43-9	25	30					
p-Nitroaniline	100-01-6		3.0					X
Nitrobenzene	98-95-3	1.0	5.0					X
4-Nitrobiphenyl (see WAC 296-62-073)	92-93-3							
p-Nitrochlorobenzene	100-00-5		0.5					X
4-Nitrodiphenyl (see WAC 296-62-073)								
Nitroethane	79-24-3	100	310					
Nitrogen	7727-37-9	Simple	Asphyxiant					
Nitrogen dioxide	10102-44-0			1.0	1.8			
Nitrogen trifluoride	7783-54-2	10	29					
Nitroglycerin	55-63-0				0.1			X
Nitromethane	75-52-5	100	250					
1-Nitropropane	108-03-2	25	90					
2-Nitropropane	79-46-9	10	35					
N-Nitrosodimethylamine (see WAC 296-62-073)	62-75-9							
Nitrotoluene o-isomer m-isomer p-isomer		88-72-2 98-08-2 99-99-0	2.0 2.0 2.0	11 11 11				X X X
Nitrotrichloromethane (see Chloropicrin)								
Nitrous Oxide (Nitrogen oxide)	10024-97-2	50	90					
Nonane	111-84-2	200	1050					
Octachloronaphthalene	2234-13-1		0.1		0.3			X
Octane	111-65-9	300	1450	375	1800			
Oil mist mineral (particulate)	8012-95-1		5.0					
Osmium tetroxide (as Os)	20816-12-0	0.0002	0.002	0.0006	0.006			
Oxalic acid	144-62-7		1.0		2.0			
Oxygen difluoride	7783-41-7					0.05	0.1	
Ozone	10028-15-6	0.1	0.2	0.3	0.6			

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Paraffin wax fume	8002-74-2		2.0					
Paraquat (Respirable dust)	4685-14-7 1910-42-5 2074-50-2		0.1 <sup>k</sup>					X
Parathion	56-38-2		0.1					X
Particulate polycyclic aromatic hydrocarbons (see coal tar pitch volatiles)								
Particulates not otherwise regulated (see WAC 296-62-07510)								
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Pentaborane	19624-22-7	0.005	0.01	0.015	0.03			
Pentachloronaphthalene	1321-64-8		0.5					X
Pentachlorophenol	87-86-5		0.5					X
Pentaerythritol	115-77-5							
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Pentane	109-66-0	600	1800	750	2250			
2-Pentanone (methyl propyl ketone)	107-87-9	200	700	250	875			
Perchloroethylene (tetrachloroethylene)	127-18-4	25	170					
Perchloromethyl mercaptan	594-42-3	0.1	0.8					
Perchloryl fluoride	7616-94-6	3.0	14	6.0	28			
Perlite								
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Petroleum distillates (Naptha) (Rubber Solvent)		100	400					
Phenol	108-95-2	5.0	19					X
Phenothiazine	92-84-2		5.0					X
p-Phenylenediamine	106-50-3		0.1					X
Phenyl ether (vapor)	101-84-8	1.0	7.0					
Phenyl ether-diphenyl mixture (vapor)		1.0	7.0					
Phenylethylene (see Styrene)								
Phenyl glycidyl ether (PGE)	122-60-1	1.0	6.0					
Phenylhydrazine	100-63-0	5.0	20	10	45			X
Phenyl mercaptan	108-98-5	0.5	2.0					
Phenylphosphine	638-21-1					0.05	0.25	
Phorate	298-02-2		0.05		0.2			X

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA ppm <sup>a</sup>	TWA mg/m <sup>3</sup> <sup>b</sup>	STEL <sup>c</sup> ppm <sup>a</sup>	STEL <sup>c</sup> mg/m <sup>3</sup> <sup>b</sup>	CEILING ppm <sup>a</sup>	CEILING mg/m <sup>3</sup> <sup>b</sup>	Skin Designation
Phosdrin (Mevinphos)	7786-34-7	0.01	0.1	0.03	0.3			X
Phosgene (carbonyl chloride)	75-44-5	0.1	0.4					
Phosphine	7803-51-2	0.3	0.4	1.0	1.0			
Phosphoric acid	7664-38-2		1.0		3.0			
Phosphorus (yellow)	7723-14-0		0.1					
Phosphorous oxychloride	10025-87-3	0.1	0.6					
Phosphorus pentachloride	10026-13-8	0.1	1.0					
Phosphorus pentasulfide	1314-80-3		1.0		3.0			
Phosphorus trichloride	7719-12-2	0.2	1.5	0.5	3.0			
Phthalic anhydride	85-44-9	1.0	6.0					
m-Phthalodinitrile	626-17-5		5.0					
Picloram	1918-02-1							
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Picric acid	88-89-1		0.1					X
Pindone (2-Pivalyl-1, 3-indandione)	83-26-1		0.1					
Piperazine dihydrochloride	142-64-3		5.0					
Pival (see Pindone)								
Plaster of Paris	26499-65-0							
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Platinum (as Pt)	7440-06-4							
Metal			1.0					
Soluble salts			0.002					
Polychlorobiphenyls (see Chlorodiphenyls)								
Portland cement	65997-15-1							
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Potassium hydroxide	1310-58-3						2.0	
Propane	74-98-6	1,000	1,800					
Propargyl alcohol	107-19-7	1.0	2.0					X
beta-Propiolactone (see WAC 296-62-073)	57-57-8							
Propionic acid	79-09-4	10	30					
Propoxur (Baygon)	114-26-1		0.5					
n-Propyl acetate	109-60-4	200	840	250	1,050			
n-Propyl alcohol	71-23-8	200	500	250	625			X
n-Propyl nitrate	627-13-4	25	105	40	170			
Propylene		Simple	Asphyxiant					

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA ppm <sup>a</sup>	TWA mg/m <sup>3</sup> <sup>b</sup>	STEL <sup>c</sup> ppm <sup>a</sup>	STEL <sup>c</sup> mg/m <sup>3</sup> <sup>b</sup>	CEILING ppm <sup>a</sup>	CEILING mg/m <sup>3</sup> <sup>b</sup>	Skin Designation
Propylene dichloride (1,2-Dichloropropane)	78-87-5	75	350	110	510			
Propylene glycol dinitrate	6423-43-4	0.05	0.3					X
Propylene glycol monomethyl ether	107-98-2	100	360	150	540			
Propylene imine	75-55-8	2.0	5.0					X
Propylene oxide	75-56-9	20	50					
Propyne (see Methyl acetylene)								
Pyrethrum	8003-34-7		5.0					
Pyridine	110-86-1	5.0	15					
Quinone	106-51-4	0.1	0.4					
RDX (see Cyclonite)			1.5					X
Resorcinol	108-46-3	10	45	20	90			
Rhodium (as Rh) Insoluble compounds, Metal fumes and dusts Soluble compounds, salts	7440-16-6			0.1 0.001				
Ronnel	299-84-3		10					
Rosin core solder, pyrolysis products (as formaldehyde)			0.1					
Rotenone	83-79-4		5.0					
Rouge Total dust Respirable fraction				10 5.0 <sup>k</sup>				
Rubber solvent (naphtha)	8002-05-9	100	400					
Selenium compounds (as Se)	7782-49-2		0.2					
Selenium hexafluoride (as Se)	7783-79-1	0.05	0.2					
Sesone (see Crag herbicide)								
Silane (see Silicon tetrahydride)								
Silica, amorphous, precipitated and gel	112926-00-8		6.0					
Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica Total dust Respirable fraction	61790-53-2			6.0 3.0 <sup>k</sup>				
Silica, crystalline cristobalite, respirable dust	14464-46-1		0.05 <sup>k</sup>					

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Silica, crystalline quartz, respirable dust	14808-60-7		0.1 <sup>k</sup>					
Silica, crystalline tripoli (as quartz), respirable dust	1317-95-9		0.1 <sup>k</sup>					
Silica, crystalline tridymite, respirable dust	15468-32-3		0.05 <sup>k</sup>					
Silica, fused, respirable dust	60676-86-0		0.1 <sup>k</sup>					
Silicates (less than 1% crystalline silica)								
Mica (Respirable dust)	12001-26-2		3.0 <sup>k</sup>					
Soapstone, Total dust			6.0					
Soapstone, Respirable dust			3.0 <sup>k</sup>					
Talc (containing asbestos) use asbestos limit (see WAC 296-62-07705)								
Talc (containing no asbestos) Respirable dust	14807-96-6		2.0 <sup>k</sup>					
Tremolite (see WAC 296-62-07705)								
Silicon	7440-21-3							
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Silicon Carbide	409-21-2							
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Silicon tetrahydride	7803-62-5	5.0	7.0					
Silver, metal dust and soluble compounds (as Ag)	7440-22-4		0.01					
Soapstone (see Silicates)								
Sodium azide (as HN <sub>3</sub> ) (as NaN <sub>3</sub> )	26628-22-8					0.1	0.3	X
Sodium bisulfite	7631-90-5		5.0			0.1	0.3	X
Sodium-2, 4-dichloro-phenoxyethyl sulfate (see Crag herbicide)								
Sodium fluoroacetate	62-74-8		0.05		0.15			X
Sodium hydroxide	1310-73-2						2.0	
Sodium metabisulfite	7681-57-4		5.0					

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA		STEL <sup>c</sup>		CEILING		Skin Designation
		ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	ppm <sup>a</sup>	mg/m <sup>3</sup> <sup>b</sup>	
Starch	9005-25-8			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Stibine	7803-52-3	0.1	0.5					
Stoddard solvent	8052-41-3	100	525					
Strychnine	57-24-9		0.15					
Styrene	100-42-5	50	215	100	425			
Subtilisins	9014-01-1					0.00006 (60 min.) <sup>i</sup>		
Sucrose	57-50-1			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
Sulfotep (see TEDP)								X
Sulfur dioxide	7446-09-5	2.0	5.0	5.0	13			
Sulfur hexafluoride	2551-62-4	1,000	6,000					
Sulfuric acid	7664-93-9		1.0					
Sulfur monochloride	10025-67-9					1.0	6.0	
Sulfur pentafluoride	5714-22-1					0.01	0.1	
Sulfur tetrafluoride	7783-60-0					0.1	0.4	
Sulfuryl fluoride	2699-79-8	5.0	20	10	40			
Sulprofos	35400-43-2		1.0					
Systox (see Demeton)								
2, 4, 5-T	93-76-5		10					
Talc (see Silicates)								
Tantalum Metal and oxide dusts	7440-25-7		5.0					
TEDP (Sulfotep)	3689-24-5		0.2					X
Tellurium and compounds (as Te)	13494-80-9		0.1					
Tellurium hexafluoride (as Te)	7783-80-4	0.02	0.2					
Temephos	3383-96-8			10				
Total dust				5.0 <sup>k</sup>				
Respirable fraction								
TEPP	107-49-3	0.004	0.05					X
Terphenyls	26140-60-3					0.5	5.0	
1, 1, 1, 2-Tetrachloro-2, 2-difluoroethane	76-11-0	500	4,170					
1, 1, 2, 2-Tetrachloro-1, 2-difluoroethane	76-12-0	500	4,170					
1, 1, 2, 2-Tetrachloroethane	79-34-5	1.0	7.0					X

**WAC 296-62-07515 cont.**

Substance	CAS <sup>b</sup> Number	TWA ppm <sup>a</sup>	TWA mg/m <sup>3</sup> <sup>b</sup>	STEL <sup>c</sup> ppm <sup>a</sup>	STEL <sup>c</sup> mg/m <sup>3</sup> <sup>b</sup>	CEILING ppm <sup>a</sup>	CEILING mg/m <sup>3</sup> <sup>b</sup>	Skin Designation
Tetrachloroethylene (see Perchloroethylene)								
Tetrachloromethane (see Carbon tetrachloride)								
Tetrachloronaphthalene	1335-88-2		2.0					X
Tetraethyl lead (as Pb)	78-00-2		0.075					X
Tetrahydrofuran	109-99-9	200	590	250	735			
Tetramethyl lead (as Pb)	75-74-1		0.075					X
Tetramethyl succinonitrile	3333-52-6	0.5	3.0					X
Tetranitromethane	509-14-8	1.0	8.0					
Tetrasodium pyrophosphate	7722-88-5		5.0					
Tetryl (2, 4, 6-trinitrophenyl-methylnitramine)	479-45-8		1.5					X
Thallium (soluble compounds (as Tl))	7440-28-0		0.1					X
4, 4-Thiobis (6-tert-butyl-m-cresol)	96-69-5							
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Thioglycolic acid	68-11-1	1.0	4.0					X
Thionyl chloride	7719-09-7					1.0	5.0	
Thiram (see WAC 296-62-07519)	137-26-8		5.0					
Tin (as Sn) Inorganic compounds (except oxides)	7440-31-5		2.0					
Tin, Organic compounds (as Sn)	7440-31-5		0.1					X
Tin Oxide (as Sn)	21651-19-4		2.0					
Titanium dioxide	13463-67-7							
Total dust			10					
Toluene	108-88-3	100	375	150	560			
Toluene-2, 4-diisocyanate (TDI)	584-84-9	0.005	0.04	0.02	0.15			
m-Toluidine	108-44-1	2.0	9.0					X
o-Toluidine	95-53-4	2.0	9.0					X
p-Toluidine	106-49-0	2.0	9.0					X
Toxaphene (see Chlorinated camphene)								
Tremolite (see Silicates)								
Tributyl phosphate	126-73-8	0.2	2.5					
Trichloroacetic acid	76-03-9	1.0	7.0					
1, 2, 4-Trichlorobenzene	120-82-1					5.0	40	
1, 1, 1-Trichloroethane (see Methyl chloroform)								

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA ppm <sup>a</sup>	TWA mg/m <sup>3</sup> <sup>b</sup>	STEL <sup>c</sup> ppm <sup>a</sup>	STEL <sup>c</sup> mg/m <sup>3</sup> <sup>b</sup>	Ceiling ppm <sup>a</sup>	Ceiling mg/m <sup>3</sup> <sup>b</sup>	Skin Designation
1, 1, 2-Trichloroethane	79-00-5	10	45					
Trichloroethylene	79-01-6	50	270	200	1,080			
Trichlorofluoromethane	75-69-4					1,000	5,600	
Trichloromethane (see Chloroform)								
Trichloronaphthalene	1321-65-9		5.0					X
1, 2, 3-Trichloropropane	96-18-4	10	60					X
1, 1, 2-Trichloro-1, 2, 2-trifluoroethane	76-13-1	1,000	7,600	1,250	9,500			
Tricyclohexyltin hydroxide (see Cyhexatin)								
Triethylamine	121-44-8	10	40	15	60			
Trifluorobromomethane	75-63-8	1,000	6,100					
Trimellitic anhydride	552-30-7	0.005	0.04					
Trimethylamine	75-50-3	10	24	15	36			
Trimethyl benzene	25551-13-7	25	125					
Trimethyl phosphite	121-45-9	2.0	10					
2, 4, 6-Trinitrophenol (see Picric acid)								
2, 4, 6-Trinitrophenyl-methylnitramine (see Tetryl)								
2, 4, 6-Trinitrotoluene (TNT)	118-96-7		0.5					X
Triorthocresyl phosphate	78-30-8		0.1					X
Triphenyl amine	603-34-9		5.0					
Triphenyl phosphate	115-86-6		3.0					
Tungsten (as W)	7440-33-7							
Soluble compounds			1.0		3.0			
Insoluble compounds			5.0		10			
Turpentine	8006-64-2	100	560					
Uranium (as U)	7440-61-1							
Soluble compounds			0.05					
Insoluble compounds			0.2		0.6			
n-Valeraldehyde	110-62-3	50	175					
Vanadium (as V <sub>2</sub> O <sub>5</sub> ) Respirable dust and fume	1314-62-1		0.05					
Vegetable oil mist								
Total dust			10					
Respirable fraction			5.0 <sup>k</sup>					
Vinyl acetate	108-05-1	10	30	20	60			
Vinyl benzene (see Styrene)								
Vinyl bromide	593-60-2	5.0	20					
Vinyl chloride (see WAC 296-62-07329)	75-01-4							

**WAC 296-62-07515 cont.**

Substance	CAS <sup>h</sup> Number	TWA ppm <sup>a</sup>	TWA mg/m <sup>3</sup> <sup>b</sup>	STEL <sup>c</sup> ppm <sup>a</sup>	STEL <sup>c</sup> mg/m <sup>3</sup> <sup>b</sup>	CEILING ppm <sup>a</sup>	CEILING mg/m <sup>3</sup> <sup>b</sup>	Skin Designation
Vinyl cyanide (see Acrylonitrile)								
Vinyl cyclohexene dioxide	106-87-6	10	60					X
Vinyl toluene	25013-15-4	50	240					
Vinylidene chloride (1, 1-Dichloroethylene)	75-35-4	1.0	4.0					
VM & P Naphtha	8032-32-4	300	1,350	400	1,800			
Warfarin	81-81-2		0.1					
Welding fumes <sup>f</sup> (total particulate)			5.0					
Wood dust Nonallergenic All soft woods and hard woods except allergenics Allergenics (e.g. cedar, mahogany and teak)			5.0 2.5		10			
Xylenes (Xylool) (o-, m-, p-isomers)	1330-20-7	100	435	150	655			
m-Xylene alpha, alpha-diamine	1477-55-0						0.1	X
Xylidine	1300-73-8	2.0	10					X
Yttrium	7440-65-5		1.0					
Zinc chloride fume	7646-85-7		1.0		2.0			
Zinc chromate (as Cr03)	Varies With Compound		0.05				0.1	
Zinc oxide Total dust Respirable fraction	1314-13-2		10 5.0 <sup>k</sup>					
Zinc oxide fume	1314-13-2		5.0		10			
Zinc stearate Total dust Respirable fraction	557-05-1		10 5.0 <sup>k</sup>					
Zirconium compounds (as Zr)	7440-67-2		5.0		10			

**Notes:**

- a Parts of vapor or gas per million parts of contaminated air by volume at 25 degrees C and 760 mm Hg pressure (torr).
- b Milligrams of substance per cubic meter of air. When a numerical entry for a substance is in the mg/m<sup>3</sup> column and not in the ppm column, then the number in the mg/m<sup>3</sup> column is exact. When numerical entries for a substance are in both the ppm and mg/m<sup>3</sup> columns, then the number in the ppm column is exact and the number in the mg/m<sup>3</sup> column may be rounded off.
- c Duration is for 15 minutes, unless otherwise noted.

**WAC 296-62-07515 cont.**

- d     *The final benzene standard in WAC 296-62-07523 applies to all occupational exposures to benzene except some sub-segments of industry where exposures are consistently under the action level (i.e., distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures).*
- e     *This 8-hour TWA applies to respirable dust as measured by a vertical elutriator cotton dust sampler or equivalent instrument. The time-weighted average applies to the cotton waste processing operations of waste recycling (sorting, blending, cleaning, and willowing) and garetting. See also WAC 296-62-14533 for cotton dust limits applicable to other sectors.*
- f     *As determined from breathing-zone air samples.*
- g     *Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:*

**AERODYNAMIC DIAMETER**

(Unit density sphere)	Percent passing selector
1	97
2	91
3	74
4	50
5	30
6	17
7	9
8	5
10	1

- h.     *The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound measured as the metal, the CAS number for the metal is given -- not as CAS numbers for the individual components.*
- i     *Compliance with the subtilisins PEL is assessed by sampling with a high volume sampler (600-800 liters per minute) for at least 60 minutes.*
- j     *Sampling for the carbon monoxide ceiling shall be averaged over 5 minutes but an instantaneous reading over 1500 ppm shall not be exceeded.*
- k     *The concentration of respirable particulate form the application of this limit is determined from the fraction passing a size-selector with the following characteristics.*

**AERODYNAMIC DIAMETER**

(Unit density sphere)	Percent passing selector
1	97
2	91
3	74
4	50
5	30
6	17
7	9
8	5
10	1

[Statutory Authority: RCW 49.17.010, .040, .050. 00-06-075 (Order 99-40), § 296-62-07515, filed 03/01/00, effective 4/10/00. Statutory Authority: Chapter 49.17.040, 49.17.050, and 49.17.060. 97-19-014 (Order 97-07), filed 8/5/97, effective 11/5/97. 96-17-056, § 296-62-07515, filed 8/20/96, effective 10/15/96; 93-01-067 (Order 92-15), § 296-62-07515, filed 12/11/92, effective 1/15/93; 91-11-070 (Order 91-01), § 296-62-07515, filed 5/20/91, effective 6/20/91; 90-03-029 (Order 89-20), § 296-62-07515, filed 1/11/90, effective 2/26/90; 89-15-002 (Order 89-06), § 296-62-07515, filed 7/6/89, effective 8/7/89; 88-14-108 (Order 88-11), § 296-62-07515, filed 7/6/88; 87-24-051 (Order 87-24), § 296-62-07515, filed 11/30/87. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-16-009 (Order 86-28), § 296-62-07515, filed 7/25/86; 85-01-022 (Order 84-24), § 296-62-07515, filed 12/11/84; 82-13-045 (Order 82-22), § 296-62-07515, filed 6/11/82. Statutory Authority: RCW 49.17.040, 49.17.050 and 49.17.240. 81-16-015 (Order 81-20), § 296-62-07515, filed 7/27/81; 80-11-010 (Order 80-14), § 296-62-07515, filed 8/8/80. Statutory Authority: RCW 49.17.040, 49.17.150 and 49.17.240. 79-08-115 (Order 79-9), § 296-62-07515, filed 7/31/79; Order 73-3, § 296-62-07515, filed 5/7/73.]